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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,936	12/13/2004	Jin-Koo Chung	1190860-991670	6886

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DLA PIPER RUDNICK GRAY CARY US, LLP
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EXAMINER

CRANE, SARA W

ART UNIT	PAPER NUMBER
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2811

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/517,936	Applicant(s) CHUNG ET AL.	
	Examiner Sara W. Crane	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano in view of Laxman et al.

With respect to claim 1, Hirano teaches in the cover figure a thin film transistor 2 formed on a substrate. Wiring such as 4 is electrically coupled to the transistor (through contact holes that are not shown [0019]), and layer 4 is connected to a lower electrode underlying EL layer 13. Layers 3, 6, and 12 provide an insulating film formed on the lower electrode underlying layer 13 and formed on the substrate. Layer 13 is formed in an opening portion of the insulator. Organic EL layer 13 ([0022]) is formed on the base and on the sidewalls of the opening portion. On each side of layer 13 the insulator sidewall slopes upward, so that the EL layer 13 does not fill the entire opening in the insulator. Second electrode 14 is formed on EL layer 13. Laxman et al. teaches in the abstract that CVD can be used to produce low dielectric constant thin films suitable for insulating layers in microelectronic device structures. Paragraphs [0007] and [0003] teach that the lower dielectric constant insulator provides faster and more power efficient devices. It would have been obvious to use the low dielectric constant films as taught by Laxman et al. in the device of Hirano, in order to achieve the advantages desired by Laxman et al. With respect to the dependent claims, Laxman et al. teaches SiOC of dielectric constant less than 3.0 (Abstract and [0007]). Absent any showing of

criticality, specific dimensions for layer thickness and overlap would have been obvious in order to fabricate a device having other features commensurate in size with the recited dimensions. In general, smaller dimensions are desirable because small devices in general are desirable, but dimensions that are too small are difficult to fabricate.

Conclusion

Applicant argues that there is no motivation to combine the teachings of the two references. Laxman et al. teaches desirable insulating material to form insulating layers in microelectronic device structures, and the Hirano device is a microelectronic device structure which would clearly benefit from the advantages of speed and power efficiency desired by Laxman et al. Speed and power efficiency are desirable in display devices such as that of Hirano, as in microelectronic devices generally, and this motivation is independent of whether the device includes an organic layer. Applicant also argues that the organic layer of Hirano fills the opening in insulation layer 12. It looks in the figure on the cover of the patent as if the opening is only partially filled with the EL layer, and the rest of the opening is filled with the overlying electrode.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

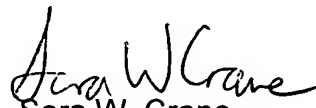
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (571) 272-1652.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sara W. Crane
Primary Examiner
Art Unit 2811